

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor device comprising:

~~m-pieces of current sources I₁, I₂, ..., and I_m; and~~

a switching circuit including:

n-pieces of input terminals D₁, D₂, ..., and D_n; and

m-pieces of output terminals O₁, O₂, ..., and O_m, and

m-pieces of current sources I₁, I₂, ..., and I_m,

wherein the current source I_k and the output terminal O_k of the switching circuit are electrically connected to each other (k = 1 to m), and

the switching circuit selects the output terminals O₁, O₂, ..., and O_m to be connected to the input terminal D_j (j = 1 to n) by using signals which are input to the input terminals D₁, D₂, ..., and D_n of the switching circuit[. . .], and

a signal which is output from the output terminal O_k is input to the current source I_k.

2. (Previously Presented) The semiconductor device according to claim 1, wherein the switching circuit selects the output terminals O₁, O₂, ..., and O_m to be connected to the input terminal D_j by further using a signal which is input externally.

3. (Original) A display device comprising the semiconductor device according to claim 1.

4. (Original) An electronic apparatus using in its display portion a display device comprising the semiconductor device according to claim 1.

5. (Currently Amended) A semiconductor device comprising:

~~m pieces of current sources; and~~

a switching circuit including n-pieces of input terminals and m-pieces of output terminals, and

m-pieces of current sources,

wherein the m-pieces of the current sources are each connected to one of the different output terminals,

at least one of the input terminals of the switching circuit is connected to one or a plurality of switches,

the switch is connected to one of the m-pieces of the output terminals, and

the switching circuit controls ON/OFF of the switch by using a signal which is input from at least one of the n-pieces of the input terminals[.], and

a signal which is output from one of the m-pieces of output terminals is input to the current source connected to the output terminal.

6. (Currently Amended) A semiconductor device comprising:

~~m pieces of current sources; and~~

a switching circuit including n-pieces of input terminals and m-pieces of output terminals, and

m-pieces of current sources,

wherein the m-pieces of the current sources are each connected to one of the different output terminals,

at least one of the output terminals of the switching circuit is connected to one or a plurality of switches,

the switch is connected to one of the n-pieces of the input terminals, and

the switching circuit controls ON/OFF of the switch by using a signal which is input from at least one of the n-pieces of the input terminals[.], and

a signal which is output from one of the m-pieces of output terminals is input to the current source connected to the output terminal.

7. (Previously Presented) The semiconductor device according to claim 5, wherein the switching circuit controls ON/OFF of the switching circuit by further using a signal which is input externally.

8. (Previously Presented) The semiconductor device according to claim 5, wherein the switch comprises a digital circuit.

9. (Previously Presented) A display device comprising the semiconductor device according to claim 5.

10. (Previously Presented) An electronic apparatus using in its display portion a display device comprising the semiconductor device according to claim 5.

11. (Currently Amended) A digital-analog converter circuit for converting an n-bit digital voltage signal into an analog current signal, comprising:

m-pieces of current sources; and

a switching circuit including n-pieces of input terminals and m-pieces of output terminals, and

m-pieces of current sources,

wherein the m-pieces of the current sources are each connected to one of the different output terminals, and

the switching circuit selects an output terminal to be connected to the n-pieces of the input terminals among the m-pieces of the output terminals by using at least one of the n-bit digital voltage signals[.], and

a signal which is output from one of the m-pieces of output terminals is input to the current source connected to the output terminal.

12. (Original) The digital-analog converter circuit according to claim 11, wherein the switching circuit selects an output terminal to be connected to the n-pieces of the input terminals among the m-pieces of the output terminals by further using a signal which is input externally.

13. (Currently Amended) A digital-analog converter circuit for converting an n-bit digital voltage signal into an analog current signal, comprising:

m-pieces of current sources; and

a switching circuit including n-pieces of input terminals, m-pieces of output terminals, and m-pieces of switch units, and

m-pieces of current sources,

wherein the m-pieces of the current sources are each connected to one of the different output terminals,

the m-pieces of the output terminals are each connected to one of the different switch units,

the m-pieces of the switch units are each connected to one or a plurality of the input terminals, and

the switching circuit controls the m-pieces of the switch units by using at least one of the n-bit digital voltage signals, thereby selecting an input terminal to be connected to the output terminal[[.]], and

a signal which is output from one of the m-pieces of output terminals is input to the current source connected to the output terminal.

14. (Original) The digital-analog converter circuit according to claim 13, wherein the switching circuit controls the m-pieces of the switch units by further using a signal which is input externally.

15. (Currently Amended) A digital-analog converter circuit for converting an n-bit digital voltage signal into an analog current signal, comprising:

~~m pieces of current sources; and~~

a switching circuit including, n-pieces of input terminals, m-pieces of output terminals, and k ($1 \leq k < m$)-pieces of switch units, and

m-pieces of current sources,

wherein the m-pieces of the current sources are each connected to one of the different output terminals,

the k-pieces of the output terminals among m-pieces are each connected to one of the switch units,

the rest ($m - k$)-pieces of the output terminals are each connected to at least one of the input terminals without an intermediary of the switch unit,

the k-pieces of the switch units are each connected to one or a plurality of the input terminals, and

the switching circuit controls the k-pieces of the switch units by using at least one of the n-bit digital voltage signals, thereby selecting an input terminal to be connected to the output terminal.

16. (Previously Presented) The digital-analog converter circuit according to claim 15, wherein the k-pieces of the switch units are controlled by further using a signal which is input externally.

17. (Previously Presented) A digital-analog converter circuit according to claim 11, wherein the switch unit comprises a digital circuit.

18. (Previously Presented) A display device comprising the digital-analog converter circuit according to claim 11 in a signal line driver circuit.

19. (Previously Presented) An electronic apparatus using in its display portion a display device comprising the digital-analog converter circuit according to claim 11.

20. (Previously Presented) The semiconductor device according to claim 6, wherein the switching circuit controls ON/OFF of the switching circuit by further using a signal which is input externally.

21. (Previously Presented) The semiconductor device according to claim 6, wherein the switch comprises a digital circuit.

22. (Previously Presented) A display device comprising the semiconductor device according to claim 6.

23. (Previously Presented) An electronic apparatus using in its display portion a display device comprising the semiconductor device according to claim 6.

24. (Previously Presented) A digital-analog converter circuit according to claim 13, wherein the switch unit comprises a digital circuit.

25. (Previously Presented) A digital-analog converter circuit according to claim 15, wherein the switch unit comprises a digital circuit.

26. (Previously Presented) A display device comprising the digital-analog converter circuit according to claim 13 in a signal line driver circuit.

27. (Previously Presented) A display device comprising the digital-analog converter circuit according to claim 15 in a signal line driver circuit.

28. (Previously Presented) An electronic apparatus using in its display portion a display device comprising the digital-analog converter circuit according to claim 13.

29. (Previously Presented) An electronic apparatus using in its display portion a display device comprising the digital-analog converter circuit according to claim 15.

30. (Previously Presented) The semiconductor device according to claim 1, wherein the current source I_k and the output terminal O_k of the switching circuit are connected directly to each other ($k = 1$ to m).

31. (Previously Presented) The semiconductor device according to claim 5, wherein the m -pieces of the current sources are each connected directly to one of the different output terminals.

32. (Previously Presented) The semiconductor device according to claim 6, wherein the m -pieces of the current sources are each connected directly to one of the different output terminals.

33. (Previously Presented) The digital-analog converter circuit according to claim 11, wherein the m -pieces of the current sources are each connected directly to one of the different output terminals.

34. (Previously Presented) The digital-analog converter circuit according to claim 13, wherein the m -pieces of the current sources are each connected directly to one of the different output terminals.

35. (New) The semiconductor device according to claim 1, further comprising:

a signal line electrically connected to the m-pieces of current sources I_1, I_2, \dots, I_m ;
and

a pixel connected to the signal line,
wherein a current having a correlation with a signal which is input to the signal line flows
into a display element in the pixel.

36. (New) The semiconductor device according to claim 35, wherein the correlation is a
proportion.

37. (New) The semiconductor device according to claim 5, further comprising:
a signal line electrically connected to the m-pieces of current sources; and
a pixel connected to the signal line,
wherein a current having a correlation with a signal which is input to the signal line flows
into a display element in the pixel.

38. (New) The semiconductor device according to claim 37, wherein the correlation is a
proportion.

39. (New) The semiconductor device according to claim 6, further comprising:
a signal line electrically connected to the m-pieces of current sources; and
a pixel connected to the signal line,
wherein a current having a correlation with a signal which is input to the signal line flows
into a display element in the pixel.

40. (New) The semiconductor device according to claim 39, wherein the correlation is a
proportion.

41. (New) The digital-analog converter circuit according to claim 11, wherein a signal line is electrically connected to the m-pieces of current sources and a pixel is connected to the signal line, wherein a current having a correlation with the analog current signal flows into a display element in the pixel.

42. (New) The digital-analog converter circuit according to claim 41, wherein the correlation is a proportion.

43. (New) The digital-analog converter circuit according to claim 13, wherein a signal line is electrically connected to the m-pieces of current sources and a pixel is connected to the signal line, wherein a current having a correlation with the analog current signal flows into a display element in the pixel.

44. (New) The digital-analog converter circuit according to claim 43, wherein the correlation is a proportion.

45. (New) The digital-analog converter circuit according to claim 15, wherein a signal line is electrically connected to the m-pieces of current sources and a pixel is connected to the signal line, wherein a current having a correlation with the analog current signal flows into a display element in the pixel.

46. (New) The digital-analog converter circuit according to claim 45, wherein the correlation is a proportion.